UNITED STATES PATENT AND TRADEMARK OFFICE

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10/596,141	06/20/2006	Peter Gerardus Jansen	DVME-1031US	2713

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *6/1/2006*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 10-29 are pending.

Drawings

2.   The drawings are objected to because Figure 1 is missing descriptive legends. Figure 1 contains a plurality of boxes having no descriptive legends making it impossible to understand the drawing. See 37 CFR 1.84(o). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

3.   Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4.   Claims 10 and19 are objected to because of the following informalities:

        i.   Claim 10, line 1, insert ":" after comprising

        ii.   Claim 19, line 1, insert ":" after comprising.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6.   Claims 28-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

7.   **Regarding independent Claims 28 and 29**, the claim recites a "compute readable medium". However, the specification fails to provide clear support or antecedent basis for these limitations. Without clear support or antecedent basis for "computer readable medium", it is unclear if Applicant intends to claim something broader than storage media (e.g., RAM. ROM, CD-ROM, disks, etc.) and cover signals, carrier waves and other forms of transmission media. Therefore, the limitation media is not limited to physical articles or objects which constitute a manufacture within the meaning of 35 USC 101 and enable any functionality of the instructions carried thereby to act as a computer component and realize their functionality. As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8.   Claims 11, 12, 15-18, 20, 21, 24-27 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

        a.   The following claim languages are unclear and indefinite:

                i.   As per claim 11, line 2 recites "respective share of processing capacity" it

is unclear what constitutes the respective share of processing capacity of the

processing unit as there is only one processing unit (i.e. share of processing unit

for plurality of processing unit? share of capacity for each process separately or

as a whole? CPU resource allocation % for each process within a single

processor?).

                ii.   Claim 20 has similar deficiency as of claim 11 above.

                iii.   As per claim 12, line 2 recites "fraction of processing capacity" it is

unclear what constitutes the fraction of processing capacity of the at least one

processing unit since there is only one processor and the processes are executing

on the single processor (i.e. processing resources used to execute one process? all

the processes?). Line 2-3 recites "transferral of one or more of the selected

processes only if the fraction lies below…. Maximum" its unclear what constitute

the maximum that will trigger the transfer of processes (i.e. maximum of what?

Maximum of the entire CPU usage? maximum for each process?).

iv.   Claims 15, 21 and 24 has similar deficiency as claim 12 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   Claims 10-18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Parikh (US Patent No. 5,423,017), in view of Mathur et al.(Us Patent No. 6,938,254).

10.   As per claim 10, Parikh teaches the invention substantially as claimed including a method

of controlling memory allocation in a computer system comprising physical memory, at least one

storage device and at least one processing unit (col 8, lines 32-46), and arranged to implement

virtual memory, which computer system is capable of enabling at least two processes associated

with respective instances of application programs to be running, only one active process being

enabled to receive input from a user at any one time(pages belonging to the process that has been

accessed are active processes), said method comprising the step of selecting at least one of the

processes to be at least partially transferred from physical memory to a storage device based on

which processes have been inactive for longer than a predetermined time interval (col 1, lines 30-

42; lines 65-67; col 2, lines 1-10; lines 34-47; ager cycle is the predetermined time).

Parikh does not specifically disclose that only one active process being enabled to receive

input from a user at any one time.

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However Mathur teaches only one active process being enabled to receive input from a user at any one time (col 5, lines 50-55).

11.   It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Mathur into the method of Parikh to have only one active process being enabled to receive input from a user. The modification would have been obvious because one of the ordinary skills of the art would utilize the teaching of Mathur to have one active process at a time as the user can actively provide input in one process at a time using the input devices of the computer system.

12.   As per claim 11, Parikh teaches determining a respective share of processing capacity of at least one said processing unit dedicated to running each selected process, and initiating the at least partial transferral of only those selected processes of which the share lies below a pre-determined level (col 6, lines 57-68 through col 7, lines 1-30).

13.   As per claim 12, Parikh teaches determining a fraction of processing capacity of the at least one of the processing units being used, and initiating transferral of one or more of the selected processes only if the fraction lies below a pre determined maximum (col 6, lines 57-68 through col 7, lines 1-30).

14.   As per claim 13, Parikh teaches wherein the step of selecting is carried out irrespective of how much of the physical memory is available for additional processes (col 1, lines 65-67

through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can

be swapped when necessary).

15.   As per claim 14. Parikh teaches wherein the step of selecting is repeated at least once (col

2, lines 44-47).

16.   As per claim 15, Parikh teaches determining a fraction of processing capacity of the at

least one of the processing units being used, and initiating transferral of one or more of the

selected processes only if the fraction lies below a pre determined maximum (col 6, lines 57-68

through col 7, lines 1-30).

17.   As per claim 16, Parikh teaches selecting is carried out irrespective of how much of the

physical memory is available for additional processes (col 1, lines 65-67 through col 2, lines 1-2;

ager creates a list of possible candidate to keep track of pages that can be swapped when

necessary).

18.   As per claim 17, Parikh teaches wherein the step of selecting is carried out irrespective of

how much of the physical memory is available for additional processes (col 1, lines 65-67

through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can

be swapped when necessary).

19.   As per claim 18, Parikh teaches wherein the step of selecting is carried out irrespective of

how much of the physical memory is available for additional processes (col 1, lines 65-67

through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can

be swapped when necessary).

20.   As per claim 28, Parikh teaches a computer readable medium, having thereon

instructions, when run on a computer system, for enabling the computer system to carry out a

method according to claim 10 (col 8, lines 31-42).

21.   Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mathur et al.(Us

Patent No. 6,938,254), in view of Onodera(US Patent No. 6,128,714).

22.   As per claim 19, Mathur teaches the invention substantially as claimed including a

method of controlling memory allocation in a computer system comprising physical memory, at

least one storage device and at least one processing unit, and arranged to implement virtual

memory, which computer system is capable of enabling at least two processes associated with

respective instances of application programs to be running, only one active process being

enabled to receive input from a user at any one time, said method comprising the step of

selecting a process to be at least partially transferred from physical memory to a storage device

(col 2, lines 63-67; col 4, lines 1-4; col 5, lines 50-55).

Mathur does not specifically disclose that selecting a process to be at least partially transferred from physical memory to a storage device after determining that more than a pre-determined interval of time has elapsed since creation of the process.

However Onodera that selecting a process to be at least partially transferred from physical memory to a storage device after determining that more than a pre-determined interval of time has elapsed since creation of the process (col 7, lines 30-60).

23.   It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Onodera into the method of Mathur to have transferal of process that exceeds a time interval. The modification would have been obvious because one of the ordinary skills of the art would utilize the teaching of Onodera to transfer a process that exceeds a time interval since it was created to utilize the system resources properly without having one process locking the system resource for a very long time.

24.   Claims 20-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathur et al.(Us Patent No. 6,938,254), in view of Onodera(US Patent No. 6,128,714), as applied to claim 19, and further in view of Parikh (US Patent No. 5,423,017).

25.   As per claim 20, Mathur and Onodera do not specifically disclose the step of determining a respective share of processing capacity of at least one said processing unit dedicated to running each selected process, and initiating the at least partial transferral of only those selected processes of which the share lies below a pre-determined level.

However Parikh teaches further comprising the step of determining a respective share of processing capacity of at least one said processing unit dedicated to running each selected process, and initiating the at least partial transferral of only those selected processes of which the share lies below a pre-determined level (col 6, lines 57-68 through col 7, lines 1-30).

26.   It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Parikh into the method of Mathur and Onodera to have a remove processes that lies below a threshold. The modification would have been obvious because one of the ordinary skills of the art would utilize the teaching of Mathur to identify processes that has low priority as they are not allocated enough CPU resource to be transferred to allocate memory for the high priority processes.

27.   As per claim 21, Parikh teaches step of determining a fraction of processing capacity of the at least one of the processing units being used, and initiating transferral of one or more of the selected processes only if the fraction lies below a pre-determined maximum (col 6, lines 57-68 through col 7, lines 1-30).

28.   AS per claim 22, Parikh teaches step of selecting is carried out irrespective of how much of the physical memory is available for additional processes (col 1, lines 65-67 through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can be swapped when necessary).

29.   As per claim 23, Parikh teaches wherein the step of selecting is repeated at least once (col 2, lines 44-47).

30.   As per claim 24, Parikh teaches the step of determining a fraction of processing capacity of the at least one of the processing units being used, and initiating transferral of one or more of the selected processes only if the fraction lies below a pre\- determined maximum (col 6, lines 57-68 through col 7, lines 1-30).

31.   As per claim 25, Parikh teaches wherein the step of selecting is carried out irrespective of how much of the physical memory is available for additional processes (col 1, lines 65-67 through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can be swapped when necessary).

32.   As per claim 26, Parikh teaches wherein the step of selecting is carried out irrespective of how much of the physical memory is available for additional processes (col 1, lines 65-67 through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can be swapped when necessary).

33.   As per claim 27, Parikh teaches wherein the step of selecting is carried out irrespective of how much of the physical memory is available for additional processes (col 1, lines 65-67 through col 2, lines 1-2; ager creates a list of possible candidate to keep track of pages that can be swapped when necessary).

34.   As per claim 29, Parikh teaches a computer readable medium, having thereon

instructions, when run on a computer system, for enabling the computer system to carry out a

method according to claim 19 (col 8, lines 31-42).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ABDULLAH AL KAWSAR whose telephone number is

(571)270-3169. The examiner can normally be reached on Monday to Thursday between

8:00am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng Ai T. An can be reached on 571-272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Abdullah-Al Kawsar/
Examiner, Art Unit 2195

/Li B. Zhen/
Primary Examiner, Art Unit 2194